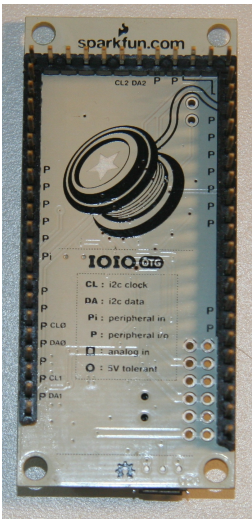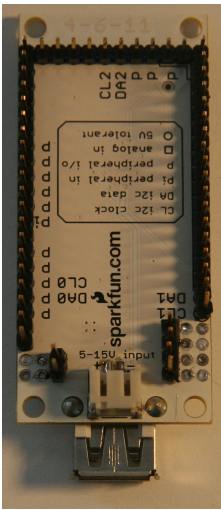# IOIO Shield Adapter
Quickstart Guide

For the most up-to-date information, visit the project wiki:
http://www.richmayfield.com/wiki/index.php?title=IOIO_Shield_Adapter_(ISA)

Precautions:

The IOIO and IOIO OTG differ in the placement of the power pins. Your ISA is made to work with both types, but you must solder headers on your IOIO in the correct manner.

IOIO OTG- Pins are soldered along the outside row only.	IOIO Original- I/O pins are soldered normally, but only the inside set of power pins are used.

If you mess this up, you'll short your 3.3V regulator to ground. No bueno.

Quick Guide:

1. Solder headers on to the IOIO according the the above precautions.
2. Plug the IOIO into the top of the board.
3. Choose a shield and plug it in.
4. Place jumpers on the power pins to couple power between boards.
   a) If your shield draws more than the IOIO regulator can handle, don't couple the 5V or 3.3V power rails.
   b) If your shield uses a different Vin that's not in the same range, don't couple Vin.
5. Start Programming-
   a) Download ISA.java from: http://www.richmayfield.com/wiki/files/ISA.java.zip
   b) Copy ISA.java to your project directory and change the package name at the top of the file.
   c) When you want to access an Arduino pin, use ISA.ARDUINO_#.

Scaling:

The Shield Adapter scales 5V Analog signals down to 3.3V for the IOIO. If the Dip Switches are in the "Scale" position, the signal will be scaled. If they are in the "Pass" position, the signal will be passed directly to the IOIO. Do not put the switches in the "Pass" position unless you are sure that you are dealing with a 3.3V signal. Keep in mind when scaling that you'll have to figure out the factor for each channel to get accurate voltage readings.

Pull-Ups:

The shield comes with unpopulated pads for pull-up resistors on each of the 14 Arduino Shield lines. Placing a pull-up resistor across these pads will pull that line up to 5V.

Two Dip Switches connect pull up resistors to the i2c lines on the screw terminals. This allows you to easily pull-up the TWI interface lines if you need to quickly connect a device to the screw terminals.